Water Quality Parameters

DWAWG

April 18th, 2017

Water Quality Parameters (WQPs)

- WQPs are used to determine if water is considered corrosive or aggressive.
- Aid in determining effective types of corrosion control treatment.
- Scenarios in which WQPs are collected
  - Large Systems (>50,000 Pop)
  - Action Level Exceedance (Lead or Copper)
  - New Systems
  - New Source/Treatment

Water Quality Parameters (WQPs)

- Starting April 1st 2017, several new WQPs are required during sampling.
- All of the WQPs must be tested each quarter

Initial WQP Monitoring

List of Analytes

Analyte Code	Analyte Name
1927	Alkalinity
1919	Calcium
1017	Chloride
1064	Conductivity
1915	Hardness
1028	Iron
1032	Manganese
1925	pH *
1052	Sodium
1055	Sulfate
1996	Temperature in Celsius *
1930	Total Dissolved Solids (TDS)
1044	Orthophosphate **
1049	Silica ***

*Field study – collection/analyzed must be as soon as possible and within 15 mins.
**Orthophosphate must be measured if an inhibitor containing a phosphate compound is used.
***Silica must be measured in an inhibitor containing silicate compound is used.

Initial WQP Monitoring

- Distribution system (DS)
  - Quarterly sample collection
  - Outside, fully flushed, tap/hose bib
  - Sample sites representative of DS

Population Served	Sample Number
>100K	25
50,001 – 100K	10
10,001 – 50K	10
3,301 – 10K	3
501 – 3,300	2
101 – 500	1
≤100	1

Initial WQP Monitoring

- Entry point (EP)
  - Defined as after treatment, but before distribution system
  - Quarterly sample collection at all active EPs
- Contact your laboratory
  - Ensure the lab is approved/accredited
  - Request 1L wide mouth bottles
  - Samples should be kept on ice

Form 20679 – WQP Chain of Custody

- Must use most updated form
  - Fill in all the required fields
  - Updated form lists all required analytes
- pH and Temperature methods must be listed
- Section 1 filled out by PWS
- Section 2 filled out by lab
- Chain of Custody must accompany bottles to lab and a copy sent to TCEQ with results
- Lab will report electronically

WATER QUALITY PARAMETER CHAIN OF CUSTODY FORM 20679

TCEQ

Section I (PWS Information)

PWS Name:
PWS ID #:
PWS Contact Name:
PWS Contact Number:

PWS Type: ☐ Community ☐ NTNC

Population: ☐ <50,000 ☐ 50,001 to 100,000 ☐ >100,000

☐ Compliance ☐ Noncompliance ☐ Tap Copper Exceedance ☐ Tap Lead Exceedance

☐ Distribution System — # DS Samples Required: # DS Samples Submitted:

☐ Entry Point — # EP Samples Required:......# EP Samples Submitted:

Inhibitor or stabilizer used: ☐ phosphate ☐ calcium carbonate ☐ silica

Section II (Completed by Laboratory)

Lab Name:

Laboratory Address:

Laboratory Contact Name:

Lab Phone:

Parameters Requested: *Analyses are required for the parameters checked. If inhibitors containing PO4 or silicate are used, then these parameters should also be tested depending on which is used.

Source ID (e.g. DS01, EP001)	Sample Location	Sample Collection Date (MMDDYY)	Sample Collection Time (HHMM)	pH (1925)	pH method	Temp (°C) (1996)	Temp Method	Lab Sample ID	Alkalinity (1927)	Calcium (1919)	Chloride (1017)	Conductivity((1064)	Hardness (1915)	Iron (1028)	Manganese(1032)	Sodium (1052)	Sulfate (1055)	TDS (1930)	O-phosphate (1044)	Silica (1049)
									✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	*	*
									✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	*	*
									✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	*	*
									✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	*	*
									✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	*	*
									✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	*	*

I acknowledge that the information on this form is true and correct and sites selected for sampling following TCEQ instructions including but not limited to the measurement of pH and temperature according to approved methods immediately upon collection (within 15 minutes)

Name **Signature** **Date**

Containers

☐ 2 L plastic bottles

☐ 1 L preserved upon receipt

Conditions Upon Receipt

☐ Ice ☐ Ambient

Temp Upon Receipt:

Corrected Temp Upon Receipt:

Comments:

Relinquished By (Name, Signature)	Date	Time	Received By: (Name, Signature)	Date	Time

(For TCEQ use only) ☐ Disapproved ☐ Accepted Comments:

Initial WQP Reporting

- Laboratory reporting
  - Form 20679 and analytical report with QC data
  - Labs submit data to TCEQ on a weekly basis
  - PWS is responsible for making sure Lab reports data by the deadlines

Quality Assurance Project Plan (QAPP)

- Outlines all regulations for sample collection and analysis
- Approved methods
- Reporting requirements

Resources

Lead and Copper Program Website

https://www.tceq.texas.gov/drinkingwater/chemicals/lead_copper/lead-copper.html

-Water Quality Parameter Sampling

-2017 WQP Sample Guidance

Drinking Water Watch

http://dww2.tceq.texas.gov/DWW/

Drinking Water Watch

Texas Commission on Environmental Quality	Office of Water	Public Drinking Water Section
County Map of TX	Water System Search	Office of Compliance and Enforcement

Water System Detail			
Water System Facilities Source Water Assessment Results	Violations Enforcement Actions	TCR Sample Results	TTHM HAA5 Summaries
Sample Points	Assistance Actions	Recent Positive TCR Results	PBCU Summaries
Sample Schedules / FANLs / Plans	Compliance Schedules	Other Chemical Results	Chlorine Summaries
Site Visits Milestones	TOC/Alkalinity Results	Chemical Results: Sort by: Name Code	Turbidity Summaries
Operators All POC	LRAA (TTHM/HAA5)	Recent Non-TCR Sample Results	TCR Sample Summaries
Glossary			

Water System Detail Information			

Group Non-TCR Sample Schedules					
Facility	Begin End Date	Seas.	Init. MP Begin Dt	Req's	Analyte Group
DS01	10-01-2013 Continuous	5/1 9/30	01-01-2014	1 RT/YR	DBP2 - DBP PHASE 2
DS01	01-01-2017 Continuous		01-01-2017	20 RT/6M	PBCU - LEAD AND COPPER RULE
DS01	01-01-2017 Continuous		01-01-2017	4 RT/6M	WQPI - WQP - INITIAL
EP001	01-01-2010 Continuous		01-01-2010	1 RT/3Y	504 - EDB/DBCP
EP001	01-01-2010 Continuous		01-01-2010	1 RT/3Y	515 - SOC METHOD 515.4
EP001	01-01-2010 Continuous		01-01-2010	1 RT/3Y	531 - SOC METHOD 531.1
EP001	01-01-2010 Continuous		01-01-2010	1 RT/3Y	MIN - MINERALS
EP001	01-01-2010 Continuous		01-01-2010	1 RT/3Y	MTL - METALS
EP001	01-01-2007 Continuous		01-01-2007	1 RT/6Y	RAD - RADIONUCLIDES
EP001	01-01-2017 Continuous		01-01-2017	1 RT/3Y	SOC5 - SYNTHETIC ORGANICS
EP001	01-01-2016 Continuous		01-01-2016	1 RT/YR	VOC - VOLATILE ORGANICS
EP001	01-01-2017 Continuous		01-01-2017	2 RT/6M	WQPI - WQP - INITIAL

Questions?

Drinking Water Advisory Work Group

Lead and Copper Sampling Review

April 18, 2016
Austin, Texas

Rebecca DuPont

LEAD AND COPPER SUMMER MONITORING OUTLINE

- Regulations and Compliance Levels
- Before Sampling
- Sampling Protocol
- After Sampling
- Questions

LCR REGULATIONS

- 2007 – Short Term Revisions to LCR
  - 40 CFR 141, Subpart I
- 30 TAC §290.117
  - Currently covers lead and copper tap water sampling and lead and copper entry point sampling.

WHOM

- Community Water Systems (CWS)
- Non Transient Non Community Water Systems (NTNC)

- TCEQ regulates approx. 5,534 PWS under the LCR

LCR COMPLIANCE LEVELS

- Action Level (AL) for Lead is 0.015 mg/L
- Action Level (AL) for Copper is 1.3 mg/L
- Reduced Monitoring Level (RML) for Lead is 0.005 mg/L
- Reduced Monitoring Level (RML) for Copper is 0.65 mg/L
- Compliance is based on 90th percentiles
- 90th percentiles determine schedules

LCR MONITORING PERIODS

INITIAL / STANDARD (6M1 or 6M2)

- 6 month sampling schedule
  - Jan 1-June 30 or July 1-Dec 31
  - New PWSs
  - PWS with action level exceedances
  - New Source or Long Term Treatment

REDUCED (RED)

- 1 year or 3 year sampling schedule
  - Seasonal sampling dates June 1 – Sept 30

LCR WEB SITE

- PWS Instructions and Guidance
- Texas Drinking Water Watch
- 2017 Systems scheduled to sample
- PWS Required tap water sample site paperwork
- Laboratory information

LCR FORMS

- http://www.tceq.texas.gov/drinkingwater/chemicals/lead_copper/lead-copper.html
- Required tap water sample site paperwork:
  - PWS Instructions
  - Homeowner Instructions
  - TCEQ Form 20467 (site selection pool)
  - TCEQ Form 20683 (LCR Chain of Custody)
  - TCEQ Form 20680(a)/(b) (lead consumer notice)

Prior to Sampling

- Update your sample pool using form 20467
- Contact your customers to determine whether they want to participate
- Contact your laboratory to receive sample bottles

SAMPLE POOL

- 30 TAC §290.117(c)(1)(C)(ii)
- TCEQ Form 20467
- No need to send in the form every time you sample
- Approved by TCEQ prior to sampling
- Identify routine and reduced monitoring sites
- Example:
  - If you sample 5, you should have 10
  - If you sample 10, you should have 20
  - If you sample 20, you should have 40

LABORATORIES

- Applies to lead and copper
- Choose your own laboratory
- Use laboratory-grade, one liter, wide mouth unpreserved bottles
- Samples must be analyzed in accordance with EPA methods for drinking water.
- TCEQ NELAP accredited Laboratories found at:
- https://www.tceq.texas.gov/assets/public/compliance/compliance_support/qa/txnelap_lab_list.pdf

Sampling Protocol

- Samples should be collected from laboratory grade, 1 liter, wide-mouthed, unpreserved bottles.
- Samples should be first draw samples collected at regularly used inside, cold water taps.
- PWS should not flush lines prior to sampling.
- PWS should ensure water has sat still in the lines and faucet where the sample is collected for at least 6 HOURS.
- Samples should not be collected from faucets with point-of-use or point-of-entry devices including homes with water softeners. If all homes have water softeners, sample as many Tier 1 sites as possible.

After Sampling

- Collect sample bottles and homeowner instructions from sample addresses
- Complete form 20683 (LCR Chain of Custody) and send with bottles to the lab
- There is a 14-day period for getting samples to the lab for analyzing.
- All sample results must be reported to TCEQ within 10 days after the end of the monitoring period.

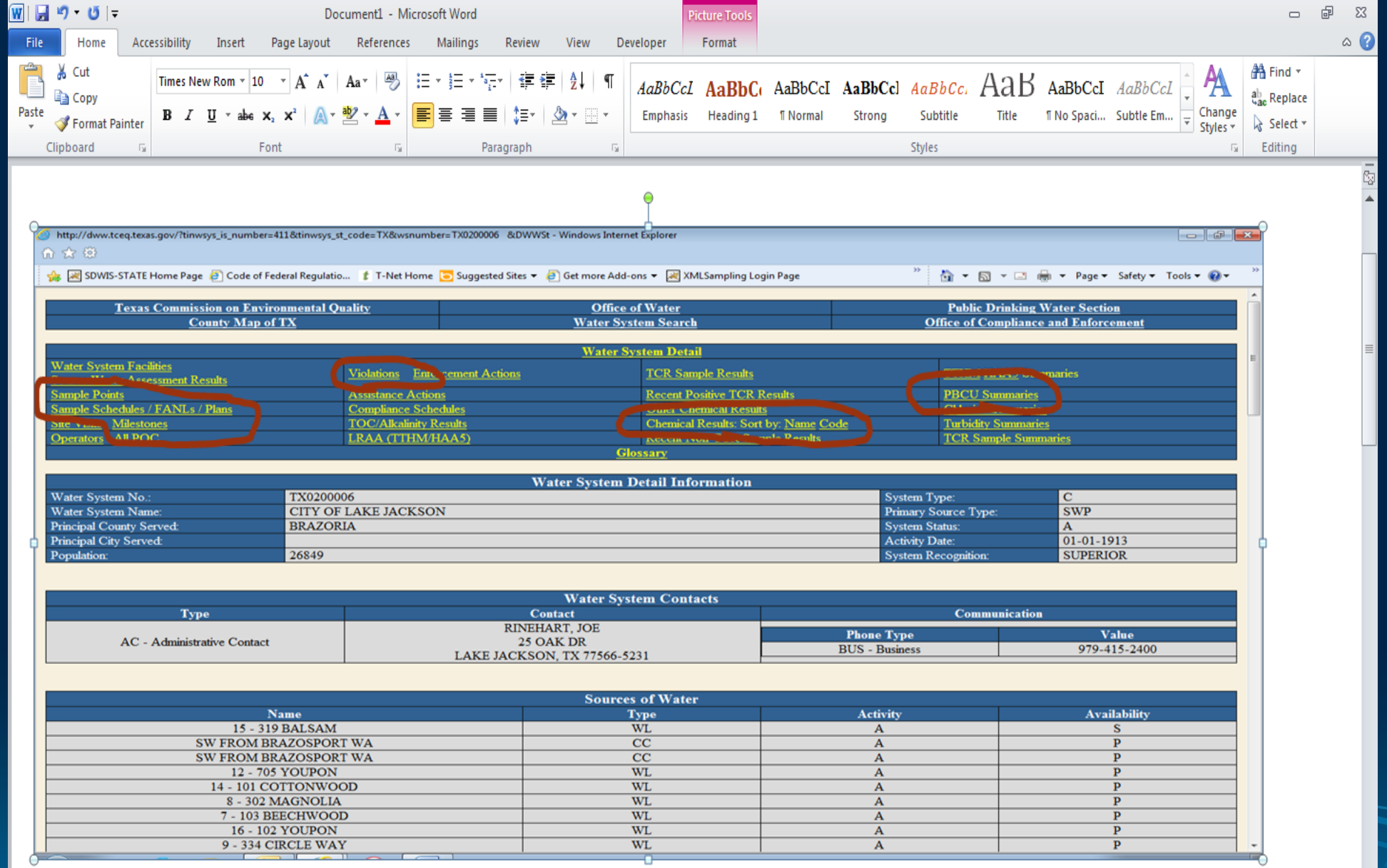
After Sampling

LEAD CONSUMER NOTICE

- TCEQ Form 20680(a) for community systems and 20680(b) for non transient non community systems
- Provide notice of all lead sampling results – regardless of exceedance - to persons served at the sites within 30 days
- Submit copy of certification and one representative customer copy to TCEQ 90 days after the monitoring period ends.
  - Monitoring Period end dates:
    - June 30 + 90 days = Sept 30
    - Sept 30 + 90 days = Dec 30
    - Dec 31 + 90 days = Mar 30

DRINKING WATER WATCH

- http://dww2.tceq.texas.gov/DWW/
- Public view of SDWIS


Document1 - Microsoft Word
http://dww.tceq.texas.gov/?tinwsys_is_number=411&tinwsys_st_code=TX&wsnumber=TX0200006 &DWWSt - Windows Internet Explorer
Texas Commission on Environmental Quality
County Map of TX
Office of Water
Water System Search
Public Drinking Water Section
Office of Compliance and Enforcement
Water System Detail
Water System Facilities
Violations
TCR Sample Results
Sample Points
Assistance Actions
Recent Positive TCR Results
PBCU Summaries
Sample Schedules / FANLs / Plans
Compliance Schedules
Milestones
TOC/Alkalinity Results
Chemical Results: Sort by: Name Code
Turbidity Summaries
Operators
LRAA (TTHM/HAA5)
TCR Sample Summaries
Glossary
Water System Detail Information
Water System No.: TX0200006
Water System Name: CITY OF LAKE JACKSON
Principal County Served: BRAZORIA
Principal City Served:
Population: 26849
System Type: C
Primary Source Type: SWP
System Status: A
Activity Date: 01-01-1913
System Recognition: SUPERIOR
Water System Contacts
Type
Contact
Communication
AC - Administrative Contact
RINEHART, JOE
25 OAK DR
LAKE JACKSON, TX 77566-5231
Phone Type
Value
BUS - Business
979-415-2400
Sources of Water
Name
Type
Activity
Availability
15 - 319 BALSAM WL A S
SW FROM BRAZOSPORT WA CC A P
SW FROM BRAZOSPORT WA CC A P
12 - 705 YOUPON WL A P
14 - 101 COTTONWOOD WL A P
8 - 302 MAGNOLIA WL A P
7 - 103 BEECHWOOD WL A P
16 - 102 YOUPON WL A P
9 - 334 CIRCLE WAY WL A P

Telephone Numbers

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ACRONYMS

- AL = action level
- CCST = corrosion control study
- CWS = community water system
- LCR = Lead and Copper Rule
- LPE = lead public education
- NTNC = non transient non community water system
- PWS = public water system
- RML = reduced monitoring level
- TCEQ = Texas Commission on Environmental Quality
- WQP = water quality parameters

QUESTIONS

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